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Alternative methods of teaching the history and development of human settlements in academic architecture

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Abstract

The paper presents alternative methods used for teaching the history and development of human settlements. The aims of this approach were: understanding the complex issues associated with town planning and applying the theories for the development of a human settlement. In the last two years, the team has applied these methods with second year students at the Faculty of Architecture. The paper describes the methods, how they were used and the outcomes. The analysis of the process reveals that alternative methods of teaching applied together are the most efficient when learning about complex problems.

Keywords: Higher education, history, settlements, teaching methods, urban development

1. Introduction

Due to the complexity of problems and the many stakeholders involved in the development of cities, the seminar classes for the subject of history and development of human settlements is one of the most appropriate for applying alternative methods of teaching and learning complex problems. This course is a part of the 2nd year curriculum at the Faculty of Architecture in Timisoara. It is the first time during their years of study when students are faced with issues related to urban development.

2. Interactive methods and techniques for groups

2.1. Group interactive methods

Many researchers believe that a primary requirement of education is to ensure a diversified methodology based on combining individual learning activities with the activities of cooperation and group learning. This is especially true in higher education due to the specific age (between adolescence and adulthood). Interpersonal and group relations are indispensable for the building personal and collective learning at this age (Piaget, 1972). Interactive learning enhances the decision taking ability and initiative, gives a personal touch to labor and ensures a more active

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participation. The specificity of group interactive methods is that they promote interaction between participants, resulting in active learning, with obvious results. Interactivity implies both cooperation - defined as a socially oriented activity, in which the individual is working with others to achieve a common goal and competition - defined as a form of motivational self-affirmation (Ausubel & Robinson, 1969).

2.2. Interactive methods and techniques used in the seminar

In the seminar the main interactive methods and techniques used for working with groups were: brainstorming, problem-based learning, critical thinking and meta-cognitive strategies (Cerghit, 2006; Oprea 2009).

Brainstorming is a widely known technique. Its goal is to find a large number of solutions and ideas on how to solve problems. There is a series of methods derived from brainstorming. In this seminar we used a method called team idea mapping. This method of brainstorming works by association. The process begins with a well-defined topic. Each participant brainstorms individually, then all the ideas are merged together. Once all the ideas are gathered, the group can prioritize and/or take action.

The goals of problem-based learning are to help the students develop flexible knowledge, effective problem solving skills, self-directed learning, effective collaboration skills and intrinsic motivation. Problem-based learning is a style of active learning. The major role of the tutor is to facilitate learning by supporting, guiding, and monitoring the learning process (Hmelo-Silver, 2004; Osborn, 1953).

Critical thinking is an important component in solving specific architectural profession issues. It is a part of the formal education process, and it is increasingly significant. Critical thinking calls for the ability to: recognize problems, to find workable means for meeting those problems, understand the importance of prioritization and order of precedence in problem solving, gather relevant information, interpret data, put to test the conclusions (Ennis, 1987).

Meta-cognitive strategies contain three essential skills: planning (appropriate selection of strategies and the correct allocation of resources that affect task performance), monitoring (awareness of comprehension and task performance) and evaluating (appraising the final product and the efficiency at which the task was performed). Similarly, maintaining motivation to see a task to completion is also a meta-cognitive skill (Metcalfe & Shimamura, 1994; Swanson, 1990).

3. Teaching and learning about history and development of human settlements

3.1. Theme and objectives of the exercise

The main objectives of this seminar were:

-understand complex issues associated with town planning and development, and applying the theories in practice in order to develop an urban seetlement and transform it into a town;

- familiarize students with teamwork and the methods used in this type of interaction;

-test various types of interactive methods and techniques used in group work.

The exercise had two major components. The first component focused on research and documentation on the characteristics and the history of a specific human settlement and the study of its evolution during that period, emphasising all the factors that influenced its development, decay or even disappearance. The second component consisted of a simulation of the towns development in different phases, in a set time period - after withdrawal of the Roman Empire from the occupied territories (ca. 300 AD), during the Middle Ages until about 1200 AD. Understanding the complex factors that affect the development of a town was crucial in order to ensure and to argue the survival and development of that town in a tumultuous period in history.

3.2. Organizing the teamwork

The approximately one hundred students were divided into three groups, each group guided by a professor's assistant. Each group studied a different area in terms of geographical, cultural and historical characteristics and development. The three groups worked separately, but the tutors had meetings every week in order to regulate the development and learning process. At the end of the semester a joint meeting of all students was scheduled, in order to present a brief of the work, so that each group could understand the other regions specificities and follow the work of their colleagues. Each of the three groups was divided into four groups, each consisting of 7 to 10 students. Three of the four groups had to develop a town (proposed by the coordinating teachers), and the fourth subgroup was a migratory population.

The project encouraged: teamwork, ability argumentation and negotiation strategies and coordination. During the seminar hours every group presented its reaserch and strategies for the development and the negotiations. The coordinating teacher had the role to facilitate learning by supporting, guiding, and monitoring the learning process and was the "judge" of negotiations between the representatives of the towns and the migrants. At the end of each seminar, the final conclusions were drawn by all the groups in order to perform the next step.

3.3. Using interactive methods and technique during the exercise

3.3.1. The first phase

First phase had the following components: research on the location, history of the settlement and main characteristics that influenced the development or the decay of the city during the studied period, study of the migrations in the area, choosing the role of each student for the future part of the exercise (leader, military representative, religious leader, representative of guilds, of merchants, farmers, architects and builders, doctors). The group representing the migrating population had to study migrations, prepare a future strategy and argue it. With all these, the big picture of the region, the real development and the various influences were clear to all the participants.

In order to present the information gathered, the students used: maps at different scales (maps of the region showing migrations waves and maps of the development of the towns during actual history), organization schemes, presentation of customs, religious rituals, study of the street network, representative buildings and types of housing. The main interactive methods for groups used at this stage were problem based learning and critical thinking.

3.3.2. The second phase

The second phase of the exercise was the first development of the settlement – the transition phase, until about 700 AD – depending on the characteristics of the area. The aims of this phase were: the first development strategies and dealing with migrations. At this stage the main tools were maps and sketches. All the interactive methods described above were used: problem based learning (during the whole exercise, in all the phases), brainstorming, team idea mapping and critical thinking (in order to find the most apropriate strategies) and metacognitive strategies (for planning, monitoring the work and the progress and self-evaluation).

Every seminar consisted of presenting the phases of the towns' development based on research and decisions of each group, as well as the fight or negotiations with the migratory population. The tutors encouraged teamwork, the development of argumentation and negotiation abilities, developing logical strategies.

3.3.3. The third phase

The third phase of the exercise was the development of a free town (until 1200 AD), when towns developed on multiple layers. After the second phase the towns were developed in certain conditions, depending on previous negotiations with the nomad populations. This phase had as a result a final plan that took into account the relationships mentioned before and the implementation of the ideas of each member of the group, according to his role in the community, based on the study performed in the first phase. At this stage the main tools were maps and sketches, but also an individual material which proved involvement in the project. Again, all the interactive methods were used.

3.3.4. The last phase

At the end, all the students gathered for a final presentation. The tutors encouraged the use of nonconventional presentations, along power-point presentations: small movies showing the transformations of the settlements, theater plays, use of models. Each of the three grups presented the main characteristics of the region, the migrations and the evolution of towns depending on the circustances. Of course, the results were usually different from real history, depending on the abilities and involvement of the stakeholders (the students).

Evaluation criteria in this exercise were: the survival of the city, teamwork, the quality of the documentation and research, clarity of arguments and strategies, involvement of the students during the semester. The results were different, depending on the student, motivation and compatibility with the group. The success rate was considered high, especially due to the use of interactive methods and techniques.

4. Conclusions

Following this exercise and the use of interactive methods and techniques, some conclusions can be drawn. First of all, with this type of approach the involvement of students in the seminar is much better than when using common methods. Secondly, the responsibility of every student and every group was enhanced, due to the fact that every student had to assume on a role within the team. Last, but not least, this approach leads to understanding complex phenomena, such as the rise or disappearance of towns, depending on historical, economic and social context, understanding the characteristics of different types of buildings in relation to the context, understanding the assimilation of migrant populations.

The final analysis of the results of the work reveals that alternative methods of teaching applied together have a maximum efficiency when learning about complex problems related with the development of urban settlements. These types of methods are suited not only for architectural education, but also for all social and human sciences.

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